

Book reviews

Geomorphology San Frontières. *S. B. McCann and D. C. Ford (editors). Chichester: Wiley, 1996, 245 pp. ISBN 0 471 96600 2. £50*

This is the latest book to be published arising from the 3rd International Geomorphology Conference in McMaster University, Hamilton, Ontario. It comprises seven chapters, beginning with the Presidential Address given by Denys Brunsden. This is followed by a long second chapter in which six senior geomorphologists discuss an earlier paper by Brunsden concerning the nature and development of geomorphology. A further five chapters present the plenary lectures given by invited speakers at the Hamilton Conference.

Chapter 1 is a plea by Brunsden to geomorphologists to become more involved with applied research, and presents examples of geomorphological mapping in the context of civil engineering and environmental planning. Brunsden urges his colleagues to adopt a more professional approach in terms of quality control, professional accreditation, involvement with environmental legislation and development of technical practice. Chapter 2, with six contributors plus a response by Brunsden himself, will, no doubt, be required reading for undergraduates taking advanced geomorphology courses. The debate concerns ten guiding principles on the nature of geomorphology proposed by Brunsden in his Presidential Address to the 2nd International Geomorphology Conference in Frankfurt. Here a range of issues is raised, including the relationship between denudation and uplift (Bremer), the merits of past theoretical approaches and the significance of ancient land surfaces (Twidale), a plea for greater emphasis on causal explanation in geomorphology, based on 'scientific' principles (Yatsu), the suggestion that the Golden Rule in geomorphology should be that of George Bernard Shaw, that there is no Golden Rule (Baker), a long rebuttal of a perceived return to Davisian principles (Tricart), and finally a response to the discussion by Brunsden. While no doubt a fascinating read for those of a philosophical bent, to this more casual reader, the 'great debate' appears to range between perceptive revelation and pretentious hot air.

In contrast, the remaining chapters offer excellent cameos of current issues in a range of geomorphological specialisms. In Chapter 3, Frank Ahnert elegantly demonstrates the value of numerical modelling of landform evolution in geomorphological explanation, although the folly of his assertion that geomorphologists should be primar-

ily concerned with landforms rather than process is highlighted by Anders Rapp in Chapter 5. Before this, in Chapter 4, Yoko Ota demonstrates the use of dated coral reefs on western Pacific islands to quantify tectonic uplift. Rapp's contribution concerns the origin of mountain top detritus in Scandinavia. The realisation that cold-based glaciers may cause little or no erosion, and that blockfields and tors may therefore survive glaciation virtually intact, raises the possibility that ice sheet reconstructions in northern Scandinavia may require a major reassessment. In chapter 6, Derek Ford discusses the evolution of limestone karst landforms under glacial and periglacial climates, and, in the final chapter of the book, John Shaw treats the reader to an eloquent and well-argued treatise on the hypothesis that large subglacial bedforms (drumlins and related features) result from rapid subglacial meltwater flow, rather than the conventional explanation of direct interaction between the glacier and its bed. Shaw demonstrates a remarkable form-similarity between these glacial landforms and smaller-scale bedforms widely observed in fluvial systems.

It is apparent that this is a somewhat diverse collection of papers, and at £50 is designed largely for the academic library market. It will, no doubt, be widely read by geomorphology students, and, despite some misgivings about parts of Chapter 2, this reviewer found much of interest within its covers.

—C. Harris

Grouting of rock and soil. *C. Kutzner. Rotterdam: Balkema, 1996, 271 pp. ISBN 9 05410364 4*

Grouting of Rock and Soil is the 'reviewed English version' of Dr Christian Kutzner's 1991 book *Injectionen im Baugrund*. That German edition featured over 30 years of experience in the grouting industry and was enriched by input from Dr Kutzner's network of professional colleagues primarily in Germany and Great Britain.

Reflecting Dr Kutzner's reputation as a logical and clear thinking engineer, the presentation of subject – both written and diagrammatic – is generally excellent and focused, even allowing for some understandable awkwardness in the translation in parts. The scope of the treatment of rock grouting is comprehensive. It is therefore somewhat surprising that for a book with international

aspirations, compaction grouting (not common yet in Western Europe) is treated in barely one page, while the relative novelty of true compensation grouting doubtless accounts for its omission. Similarly, one may have expected, in a review spanning 1991 to 1995, that references to the data presented at the two most significant grouting conferences of the decade, namely New Orleans (February 1992) and London (November 1992), would have been included. These absences are particularly obvious in Chapter 10 ('Jet grouting') which appears to be based largely on relatively mundane data from two major German contractors, without account of Japanese origins or developments.

Following two short introductory chapters, Chapter 3 constitutes a concise review of basic grouting theory, highlighting again the desirability of using 'stable' cement-based grouts to enhance penetrability. Chapter 4 provides an equally succinct review of relevant geotechnical properties, as related to grouting, albeit with a strong emphasis on rock – a bias again reflected in Chapter 5

('Design'). Given the title of the book, Chapter 6 dealing with 'Test grouting' is rather disappointing again focusing on grout curtains in rock (via one case history) for water tightness. Chapter 7 provides a good review of procedures, liberally illustrated by information from mainly Germany and Swiss manufacturers. Chapter 8 ('Grouting materials'), like Chapter 10, would have benefited from the 1992 input, while Chapter 11 ('Quality control'), clearly displays one of Dr Kutzner's strengths as an engineer and a writer. The last chapter on Tender Documents and Contracting will prove useful to European audiences, especially those involved in hydroelectric schemes.

In general, Dr Kutzner has produced a good book about grouting, although it is clear that he is most comfortable dealing with rock grouting and European practice. It is therefore a most useful addition to the growing number of textbooks recently published on the subject by American and Australian based authors.

—D. A. Bruce